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Investigation of Finemet nanocrystalline alloy coating obtained by the electric spark method

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Abstract

© Copyright 2018 Inderscience Enterprises Ltd. This paper discusses properties of the wear-resistant coating made of the 5BDSR nanocrystalline alloy obtained by the electric spark method (Finemet). It has been proved that an electric spark coating has a nanocrystalline structure which resembles the amorphous matrix with nanocrystals α-Fe. The coating thickness is 33 μm, its microhardness is 8461-11,357 MPa, and the wear resistance is 0.55 × 104s/g. 5BDSR nanocrystalline alloy coating can be used to increase the wear resistance of machinery working surfaces.

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Keywords

Electric spark treatment, Hardening, Microhardness, Multifunctional coating, Nanocrystalline alloy, Wear resistance

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